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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/551,340	09/28/2005	Tadashi Yamazaki	081356-0249	4619

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EXAMINER	
FOSTER, CHRISTINE E	

ART UNIT	PAPER NUMBER
1641	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/551,340	YAMAZAKI ET AL.	
	Examiner	Art Unit	
	Christine Foster	1641	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *23 April 2008*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-10* is/are pending in the application.

4a) Of the above claim(s) *7-10* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-6* is/are rejected.

7)☒ Claim(s) *1-6* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *28 September 2005* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *9/28/05, 8/21/06*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

1. Applicant's election without traverse of Group I, claims 1-6 in the reply filed on 4/23/08 is acknowledged.

2. Claims 7-10 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on 4/23/08 as discussed above.

3. Accordingly, claims 1-10 are pending in the application, with claims 7-10 currently withdrawn. Claims 1-6 are subject to examination below.

Priority

4. The present application was filed on 9/28/05 and is a National Stage (371) application of PCT/JP04/04606, filed 3/31/04. Acknowledgment is also made of applicant's claim for foreign priority under 35 U.S.C. 119(a)-(d) to Japanese Application No. 2003-094059, filed on 3/31/03.

Information Disclosure Statement

5. Applicant's Information Disclosure Statements filed 9/28/05 and 8/21/06 have been received and entered into the application. The references therein have been considered by the examiner as indicated on the attached forms PTO-1449.

6. The listing of references in the specification is not a proper information disclosure statement. 37 CFR 1.98(b) requires a list of all patents, publications, or other information submitted for consideration by the Office, and MPEP § 609.04(a) states, "the list may not be

incorporated into the specification but must be submitted in a separate paper." Therefore, unless the references have been cited by the examiner on form PTO-892, they have not been considered.

Specification

7. The amendment filed 4/23/08 is objected to under 35 U.S.C. 132(a) because it introduces new matter into the disclosure. 35 U.S.C. 132(a) states that no amendment shall introduce new matter into the disclosure of the invention. The added material which is not supported by the original disclosure is as follows:

The paragraph bridging pages 7-8 of the specification has been amended to recite:

Examples of the basic amino acid include histidine, ~~glutamine, asparagine~~, and citrulline.

This represents new matter because it changes the scope of the disclosure as originally filed, suggesting that the amino acids glutamine and asparagine are no longer being considered to be "basic amino acids" according to the instant invention. By contrast, from the disclosure as originally filed, one skilled in the art would clearly envisage that these amino acids were encompassed by the term "basic amino acid".

Applicant is required to cancel the new matter in the reply to this Office Action.

The disclosure is objected to because of the following informalities:

8. The amendments to the specification at paragraphs 7-8 indicated above now mean that there are two commas after the word "histidine".

Claim Objections

9. Claims 4 and 6 are objected to under 37 CFR 1.75(c) as being in improper form because **(1)** a multiple dependent claim should refer to other claims in the alternative only, and **(2)** regarding claim 6, a multiple dependent claim cannot depend from any other multiple dependent claim. See MPEP § 608.01(n). For the purposes of examination, claims 4 and 6 have been assumed to depend from claim 1.

10. Claim 1 is objected to because the language is unclear and confusing. The Examiner suggests amending the claim to recite --A latex turbidimetric immunoassay method comprising the steps of-- followed by clear recitation of the active method steps that are performed during the method.

11. Claims 2-6 are objected to for recitation of "[t]he immunoassay according to claim [x]". The language --The method of claim [x]-- or --The immunoassay method of claim [x]-- is suggested for clarity.

Claim Rejections - 35 USC § 112

12. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

13. Claims 1-6 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

14. Claim 1 recites the limitation "the variability of a measurement value attributable to phenotype variety" in lines 4-5. There is insufficient antecedent basis for this limitation in the claim.

15. Claim 1 refers to "a measurement value…that is measured **on a molecular basis**", which is vague and indefinite. It is unclear what measurement methods Applicant intends--it would seem that any method of measuring a molecule such as Lp(a) could be said to be "on a molecular basis".

16. The term **"high correlation"** in claim 1 is a relative term which renders the claim indefinite. The term "high" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention. The specification does not provide a specific or limiting definition of the term "high correlation" or indicate a clear standard for understanding the scope of this term. Consequently, one skilled in the art would not know how similar or different a given set of measurement values could be from each other, and still be considered to have a "high" correlation.

17. Claim 4 depends from any one of claims 1-3 and recites the limitation "the reaction solution" in line 2. There is insufficient antecedent basis for this limitation in claim 1.

Claim Rejections - 35 USC § 103

18. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person

having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

19. Claims 1 and 4-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Borque et al. ("Automated turbidimetry of serum lipoprotein(a)" Eur J Clin Chem Clin Biochem. 1993 Dec;31(12):869-74) in view of de Steenwinkel et al. (US 4,362,531) and Metzner et al. (US 6,447,774).

Borque et al. teaches a turbidimetric immunoassay for quantifying lipoprotein(a) using latex particle agglutination (see especially page 869, "Summary"). Lipoprotein(a) has several phenotypes as disclosed instantly. The immunoassay employs rabbit polyclonal IgG antiserum against human lipoprotein(a), which is added to the assay system (pages 869-870, "Antibody", "Assay Procedure" and "Latex nephelometric assay"). The amount of antibody added was adjusted by providing antibody in a protein/ latex ratio of 1/10 (page 870, "Latex Reagent"). The lipoprotein(a) values obtained had a "close correlation" with those obtained by RIA and ELISA methods (i.e., obtaining a measurement value having a high correlation with that measured on a molecular basis; see page 871, "Correlation").

The teachings of Borque et al. differ from the claimed invention in that the reference fails to specifically teach adding a basic amino acid to the assay system.

de Steenwinkel et al. also relates to particle agglutination immunoassays and teaches that undesired interference effects in such assays due to non-specific protein-protein interactions can be reduced or overcome by including in the assay mixture a chaotropic or chaotropic-like agent (the abstract; column 1, lines 18-41; column 2, line 42 to column 4, line 50). However, de Steenwinkel et al. do not specifically exemplify chaotropic agents that are basic amino acids.

Metzner et al. teaches that known chaotropic agents include arginine (column 1, lines 55-56; column 2, lines 12-13).

Therefore, it would have been obvious to one of ordinary skill in the art to add a chaotropic agent to the agglutination immunoassay of Borque et al. because de Steenwinkel et al. taught that such agents reduce or overcome interferences in particle agglutination immunoassays. It would have been further obvious to employ the basic amino acid arginine as the chaotropic agent in the method of Borque et al. and de Steenwinkel et al. because Metzner et al. taught that arginine is known to be a chaotropic agent. The selection of a known material for its known purpose would have been obvious.

With respect to the concluding statement in claim 1 "..thereby circumventing the variability of a measurement value attributable to phenotype variety...", such statements may be reasonably interpreted as simply a characterization or conclusion of the results of those steps earlier recited, i.e. a necessary effect of the preceding method steps. See also MPEP 2111.04. Since the prior art method meets all active method steps recited, the prior art would also have the effects indicated. Consequently, such descriptive statements are not considered to further limit the method defined by the claim.

One would have had a reasonable expectation of success because de Steenwinkel et al. is directed to the effects of chaotropic substances on agglutination assays for analytes in general (column 4, lines 44-50).

With respect to claims 4-5, de Steenwinkel et al. teach that the amount of chaotropic agent to be added to agglutination immunoassays should be checked for individual cases, since the optimum amount may vary (column 3, lines 29-38). Such teachings indicate that the amount

of a chaotropic substance was recognized to be a result-effective variable. Consequently, and absent evidence of criticality for the currently claimed amounts, it would have been obvious to one of ordinary skill in the art to arrive at the claimed amounts out of the course of routine optimization.

20. Claims 2-3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Borque et al. in view of de Steenwinkel et al. and Metzner et al. as applied to claim 1 above, and further in view of Schmitdberger et al. (US 5,180,679).

Borque et al. is as discussed above, which teaches a particle agglutination immunoassay using antibodies immobilized on latex particles, but which fails to specify the specific concentrations of the antibodies that were used in the assay.

Schmidtberger et al. also relates to particle agglutination immunoassays and teaches that different amounts of antibody can be bound to the particles in order to influence the time at which agglutination occurs (column 2, lines 13-62).

Therefore, given that the amount of antibody used in a particle agglutination immunoassay was recognized in the art to be a result-effective variable (as taught by Schmidtberger et al.), it would have been further obvious to one of ordinary skill in the art to employ polyclonal IgG antiserum against human lipoprotein(a) at the claimed concentrations out of the course of routine optimization.

Conclusion

21. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Taneja et al. ("Increased thermal stability of proteins in the presence of amino acids" Biochem J. 1994 Oct 1;303 (Pt 1):147-53) teaches that amino acids including arginine were known to have a stabilizing effect on proteins.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christine Foster whose telephone number is (571) 272-8786. The examiner can normally be reached on M-F 6:00-2:30. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Shibuya, can be reached at (571) 272-0806. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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